intercom

Journal of the Air Force ★ May 2006

PAGING DR. COMM

★ BALAD'S EXTREME HOSPITAL MAKEOVER ★

ILLUSTRATING FOR THE CURE ★ ARTIST RECOGNIZED AT DOD LEVEL

★ AMC HELPS MEDICS GO WI-FI ★

intercom
Online ★ public.afca.af.mil/intercom.htm

SITEMAP

MAY 2006 ★ VOLUME 47, NUMBER 5


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FROM THE TOP

THE THEME

GUIDING LIGHT

Cover: Jim Verchio
Photo: A1C Andrew Oquendo

COMM OPS

THE JOURNAL OF THE AIR FORCE C4ISR COMMUNITY

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MAGAZINE AWARDS

2005
Best Magazine
Air Force & DoD

2003/2004
Most Improved Magazine & Honorable Mention
Clarion Award * Women in Communications

Award of Excellence – Internal Magazine
NAGC Blue Pencil Competition

Best Online Newspaper
Air Force Media Contest

Best Designed Publication
DoD's MILGRAPH Competition

FROM THE EDITORIAL DESK

CREATING DR. COMM

CASE FILE

Today, many communicators find themselves behind the scenes supporting the warfighter, and those working behind the scenes in medical comm are no different. It's important for us to put bombs on target, but nothing is more important than saving lives. Hats off to all comm warriors around the world who help us take care of our No. 1 resource—people.

THE SET UP

To illustrate this month's cover, many people worked behind the scenes to bring it all together. Master Sgt. Richard Corporon and the 375th Medical Group staff at Scott AFB, Ill., went out of their way to make sure we had every prop possible. When it was "go time," communicators suited up for the delicate operation.

LET'S TRY THIS

Airman 1st Class Andrew Oquendo, 375th Communications Squadron, got the lucky photo assignment. It took about three hours of trying special lighting effects and numerous tries of positioning the workers around the computer to come up with this month's cover image.

THANKS TEAM

Thanks to the "models" (from the left) Airman 1st Class Rachelle Pool, Staff Sgt. Reeshemah James, A1C Adam Therrian, Tech. Sgt. Doug Brock, 2nd Lt. Brennon Thomas, and (sitting) Master Sgt. Richard Corporon from the hospital, for taking the time to bring Dr. Comm to life.

JAG IN A BOX

Going secure

Can we install SIPRNET in our Military Treatment Facilities?

Fritz Mihelcic
AFCA Deputy Chief Counsel

You may remember we've mentioned the policy in this column before, and we still receive numerous calls on the issue. Air Force policy does permit SIPRNET and encrypted phone capability in Military Treatment Facilities under very limited circumstances.

In April 2004, the Judge Advocate General issued a three-page policy outlining when SIPRNET, encrypted phones, and similar connectivity can be installed in MTFs. The equipment must only be used for medical purposes. Adequate safeguards must be in place before installation of such connectivity, such as allowing neutral third-party verification that the system is being used exclusively for medical purposes and not for command and control.

If the connectivity is used for non-medical purposes, the MTF may lose its protected status under the Law of Armed Conflict ; using a protected symbol to hide a military target is also a violation of LOAC. Since the SIPRNET was originally intended to facilitate secure comm, an enemy may not believe that the MTF is using it for medical purposes (especially in view of the current health code guidance that does not require medical encryption behind Air Force firewalls). For more information on comm related legal issues, contact our office.

Send in your question to:
AFCA-JA@scott.af.mil or call DSN: 779-6060

JARGON & THE FOG INDEX

How we're going to help you weather the story

STAFF REPORT — The "intercom" staff has received a couple of letters asking "What's up with all the alphabet soup?" Admittedly, much of the content in this publication does require some extra mental energy to absorb not only its technical speak but also military jargon at its finest. We know readers have a limited amount of time; and we all want to be able to scan the story quickly.

However, sometimes to understand the complex, we need to be able to fully explain concepts, such as Architectural Engineering for instance, that can be daunting at first glance. So, to help us all get a quick overview of what we're about to dive into, we're adding a Fog Index that rates the complexity of the word usage and a Jargon Watch column that will give you a quick glance at the specific jargon or acronyms used within the story.

We encourage you to chime in with your feedback. Just send us an e-mail to catch us when we start "assuming" everyone knows what we're talking about!

JARGON WATCH

With this column we'll list the words/terms you'll want to be familiar with. We'll also list some of the acronyms so you won't have to go back through the text to figure out what it goes with. Common acronyms, such as DoD, won't need an explanation, right?

8 — 15

READABILITY EASE BASED ON FLESH-KINCAID SCORES

FOG INDEX

A Fog Index calculates how difficult it is to read through a story by counting the number of words with three or more syllables. It has nothing to do with how simple it is to understand. Even common words such as tomorrow are counted as hard. The number of long words increases strain for the reader, and makes it more difficult for the reader to follow the message. Scores should generally fall between 10 to 15. For instance, "Readers' Digest" scores an 8, "Time" and "Newsweek" magazines score a 10, while the "N.Y. Times" scores a 14. Professional writings require a mature style while trying not to be overly complex. Every effort is made to make our stories conversational while keeping its essence.

PHOTO ILLUSTRATION BY KAREN PETITT

THE NEW REALM OF WWW

DATABASE LINKS EXPERTS TO THOSE ON THE FRONT

8 15

READABILITY BASED ON FLESH-KINCAID SCORES

FOG INDEX

- The "Innovation and Technology Knowledge Management" Web site is available via the portal at: https://www.my.af.mil.
- Instead of ideas being located in separate places, they can now be filed and shared on this new Web site.

JARGON WATCH

- **BATTLELAB:** These labs explore new technology and ideas that enhance the warfighter's capability. There are seven battlelabs in the Air Force, and the Deputy Chief of Staff for Warfighting Integration, Battlelabs Innovation Division, provides overarching guidance, policy, and oversight.
- **INNOVATION COMMUNITIES:** Organizations that are chartered to develop new technology or to solve problems.

Air Force brings ideas into one location

WASHINGTON— Innovation communities within the Air Force now have an online forum to learn, collaborate and collect ideas relative to their daily needs.

This forum is called the "Innovation and Technology Knowledge Management" site, and is available via the Air Force Portal.

"What we are developing is a comprehensive knowledge management system where we are going to accumulate innovation ideas, techniques and new technologies into a one-stop shopping area for those interested in technology and innovation," said Maj. Gen. Gregory H. Power. "It will allow our warfighters real-time information they don't have today."

Currently, many of the innovation communities in the Air Force — those organizations that are chartered to develop new technology or to solve problems — all use separate venues or Web sites and databases to store their ideas. Under the new system, those sites will be joined into one location, so Air Force innovators can come to one place to collaborate with others focused on similar activities.

"For instance, Air Force battlelabs are involved with exploring new technology, techniques, tactics, procedures and anything to improve warfighting. [They] specialize in areas of study such as air warfare, air mobility, command and control, force protection, info ops, space, and unmanned aerial vehicles. These labs will be one of the many organizations to benefit from the Innovation and Technology Knowledge Management site."

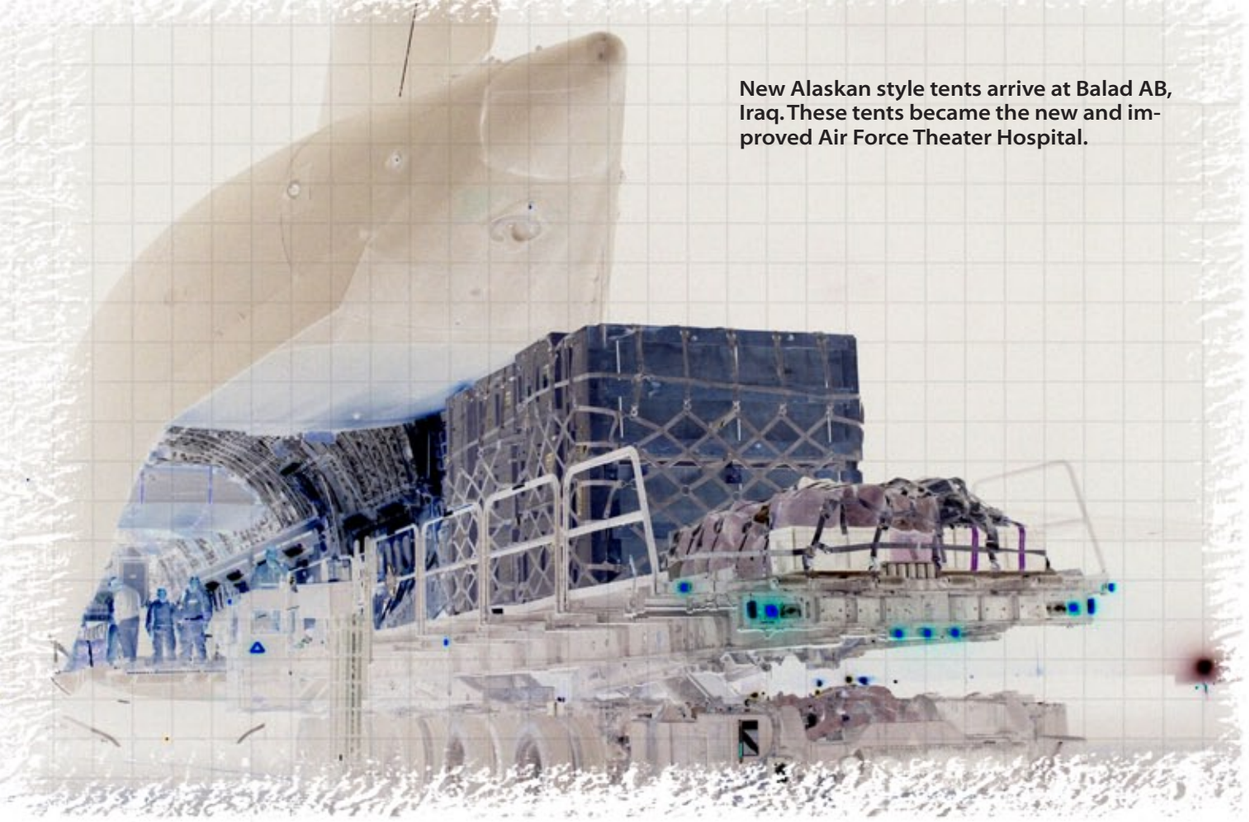
He said eventually all Airmen will benefit from the site such as Airmen working convoy operations in Iraq could visit the site to read about the latest developments there and even find experts for an idea to improve day-to-day operations.

"An operator could type in 'convoy operations' and the Web site would use a powerful engine to search for that topic in our database to find information about convoy operations. The site could also find a person the operator could talk to on the telephone or via e-mail who is a subject matter expert on convoy operations," General Power added.

The Web site will benefit from the interaction of thousands of users and will give people access to volumes of information already on the Internet. People will be able to participate in a "Wisdom Exchange" to interact with subject matter experts. They will also have access to interactive, online training modules.

Initially, the data available on the site comes from Air Force organizations, but the site will eventually pull information from other services, agencies, industry and academic databases. The site will also benefit from input by Airmen and other innovators who participate.

"We have found over time that some of the best innovation comes from our younger folks who see how we are operating, or a technique or procedure that we have used for years, and because we have used it for so long we are comfortable with it," the general said. "A younger person can see where we can make improvements. Those are the people we want to target — the people coming on board now who are extremely literate in Information Technology and understand how our technology works." *(AFPN)*



New Alaskan style tents arrive at Balad AB, Iraq. These tents became the new and improved Air Force Theater Hospital.

BALAD COMM & the extreme hospital makeover

The Air Force took control of the facility and quickly set out to improve the entire complex's infrastructure.

By Staff Sgt. Adrian C. McDonough
332nd Expeditionary Communications Squadron

BALAD AIR BASE, Iraq — Surgical bypass. A person may expect to hear that term used when paying a visit to the Balad Air Force Theater Hospital. However, one wouldn't expect to hear that term used by a comm troop. But, this analogy is a great way to describe a pile of telephone and network wiring to members of Balad's medical staff.

That's because in the early weeks of November, members of the 332nd Expeditionary Communications Squadron feverishly worked to keep pace with civil engineers, medical facilities staff and a compliment of volunteers to complete a total modernization of the 332nd Medical Group's ailing hospital.

The 23-tent structure had been a fixture at Balad since the beginning of the U.S. led liberation of Iraq, and it was in need of an extreme makeover, both inside and out.

Courtesy photos

Although 29 days had been set aside for the renovation, the task was accomplished in 16 days without interruption to patient care or the hospital's network.

Previously administered by the Army when tactical was practical, the Air Force took control of the facility and quickly set out to improve the entire complex's infrastructure.

Wires were strung across the shortest distance between two points—inside, outside and upside down. Several were frayed, fried or otherwise in disrepair.

Protecting the wiring from tampering and from the elements became the team's first priority. Those working on the project thought the weather, which during this season ranges from scorching temperatures to winter thunderstorms, would set in prior to project completion. But, they completed the project before the weather had a chance to stall progress.

When the new tents arrived later than planned, crews worked around-the-clock to install the infrastructures way ahead of schedule. The team installed power, water, telephone and network infrastructures to transform the aged and dusty medical complex into a one-of-a-kind theater hospital. In the end, the theater hospital received more than 20 new Alaskan style tents to replace the aged and worn temper tents.

Those who had previously served in theater were instrumental to the renovation.

During earlier Aerospace Expeditionary Force rotations, specialists from the 332nd Communications Squadron redesigned the telephone, NIPR and SIPR networks, formulated lists of materials and submitted purchase requests. More than $100,000 worth of new materials, including more than six miles of copper cable were in place and ready for the renovation team.

Charged by the 332nd ECS commander to "do it right the first time," the comm team's challenge was to maintain continuous voice and network connectivity with zero downtime and absolutely zero interruption to patient care.

To avoid interruptions, the hospital staff orchestrated an intricate series of tent moves much like a large scale shell game. In a project that lasted just 16 days, Balad ended up with a first-class deployed medical facility boasting to be the theater's best and fully capable field hospital.

Communicators, hospital staff and volunteers construct the new hospital before the rains set in.

8 15
READABILITY BASED ON FLESH-KINCAID SCORES

FOG INDEX

Kudos to Team Balad for tackling this major project and knocking it out in half the projected time.

JARGON WATCH

- **AFTH:** Air Force Theater Hospital
- **NIPRNET:** Non-classified Internet Protocol Router Network
- **SIPRNET:** Secure Internet Protocol Router Network.

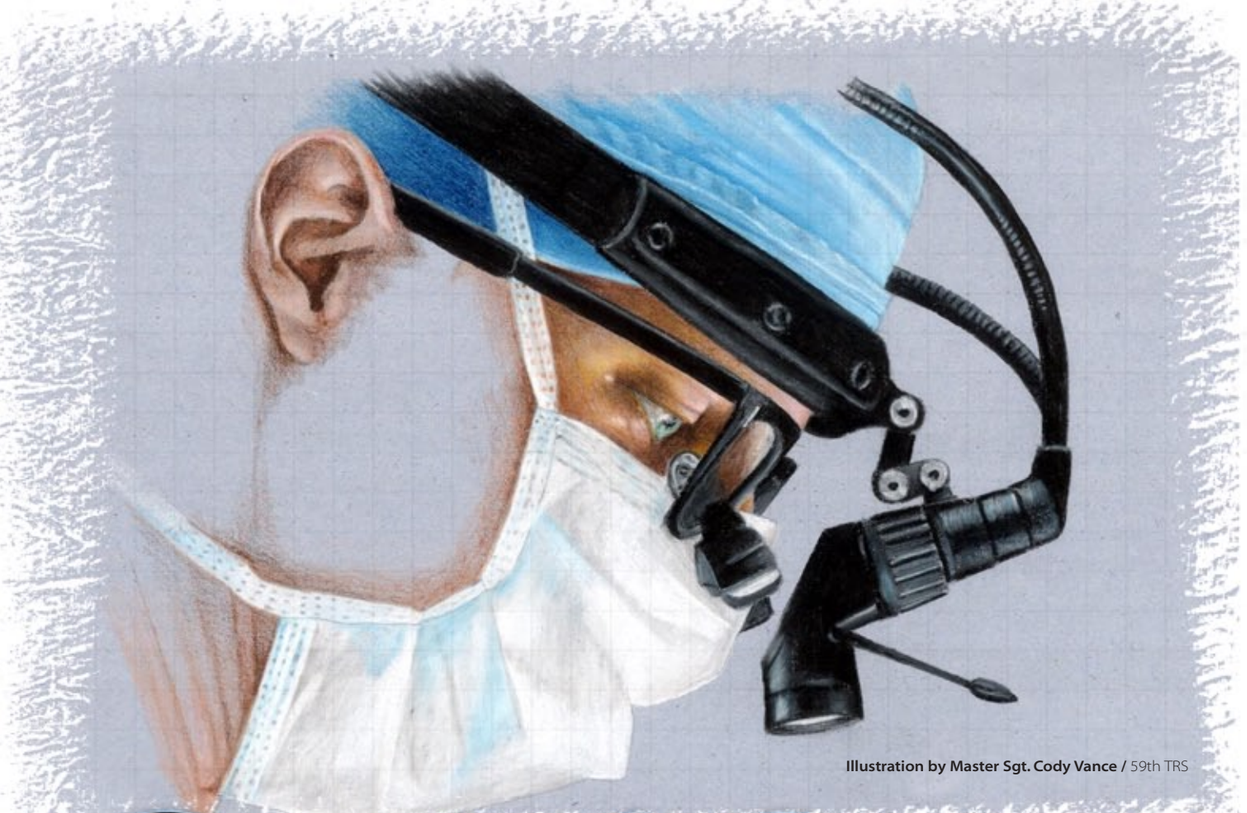


Illustration by Master Sgt. Cody Vance / 59th TRS

Pencils & Scalpels

Artists work with providers to illustrate the cure

8 15

READABILITY BASED ON FLESH-KINCAID SCORES

FOG INDEX

Even though these graphic artists and photographers aren't medically trained, they're fully immersed in Wilford Hall's medical mission.

JARGON WATCH

- **MMC**: Medical Multimedia Center
- **GME**: Graduate Medical Education
- **AFIP**: Armed Forces Institute of Pathology

By Jim Verchio
Intercom Editor

For most communicators, success is measured by how well they help get bombs on target or assist with enemy kills. Yet, there is one group of comm specialists who measure success by saving lives through their ability to illustrate medical procedures.

For those whose "Area of Operations" is the surgical suite, Wilford Hall's Medical Multimedia Center at Lackland AFB, Texas, is ready to provide the "medical" warfighter with an array of products aimed at improving patient care, furthering medical research and visually documenting everything from minor surgeries to forensic pathology.

"**Illustrators at Wilford Hall are initiated into the inner chamber of Air Force medical research**," said Master Sgt. Cody Vance, an illustrator in the MMC. "The Graduate Medical Education residents who rotate through the hospital are always discovering new medical procedures that save lives and improve the quality of life for our military families."

Sergeant Vance and the MMC staff provides the GME program with professional multimedia products and services in support of its unique operations. Under the direction of the 59th Training Squadron and the 59th Medical Support Group, the MMC is responsible for providing medical illustrations, medical photography, video teleconferencing, and video documentation and services in support of medical training.

Sergeant Vance said research comes from in-house trials or lessons learned downrange. With the research in hand, the artist works closely with residents to produce visual representations of their findings. The doctors are then able to take their findings on the road to various national and international medical conferences and support their research with real-to-life artwork. In some instances, artwork is also used to explain procedures and put a patient at ease.

"It's marvelous at how accurately we are able to visually tell the story of these intricate procedures," said Lt. Col. (Dr.) Jay Bishoff, the lead urologist at Wilford Hall. "**The mock ups we produce show my patients exactly what I'll be doing—these illustrations are priceless.**"

At the wing level, military photographers are usually tasked to shoot the obligatory retirement and promotion ceremonies. However at Wilford Hall, they document medical research such as cranial facial documentation and live surgical procedures, and also provide autopsy documentation. An integral part of the Armed Forces Institute of Pathology, the group's specially trained and certified photographers are prepared to deploy "same day anywhere" in the U.S. with a team of forensic pathologists to document potential cause of death of military members regardless of branch of service.

"Visual documentation of fatalities preserves evidence which may be critical to investigations," said 59th TS commander, Col. Joanne Henkenius-Kirschbaum. "This documentation assists the Air Force to capture lessons learned, and possibly avoid future mishaps and loss of life. **Considering the multimedia career field is not a medical specialty, our photographers and illustrators do a remarkable job with the special missions entrusted to them.**"

In the medical arena, the metaphorical bombs on target are lives saved, and providers at Wilford Hall can rest assured their multimedia team is poised and ready to support that mission at a moment's notice.

Sergeant Vance said there's real job satisfaction in being able to bring the visual to life.

"Whether it's illustrating a ground-breaking procedure or helping forensic professionals document the cause of death, it's nice to go home at the end of the day knowing you're directly impacting someone's quality of life."

By Jim Verchio
Intercom Editor

One of Wilford Hall's own was named best-of-the-best during the Department of Defense's annual Military Graphic Artist of the Year competition March 14.

Master Sgt. Cody Vance, an illustrator with the 59th Training Squadron, earned first place, second place and an honorable mention in the illustration category. He also earned an honorable mention in the fine arts category and received an honorable mention for the Military Graphic Artist of the Year.

"This one competition inspires other artists to create, experiment and excel as illustrators. It's a honor to be singled out for my work, but the best part of my job is showing people a world they've never seen before—a perspective of the world through another's eyes. To me, that's what the artwork really represents."

His job as a medical illustrator requires him to be an expert in the topography of the human anatomy, and it's in the human face where he finds his muse.

"I've always been drawn to the human face. It's so complex and simple at the same time. **I especially favor working from those images that are captured when a person isn't aware they're being photographed. Their 'camera' face is gone, and it's in that one moment when you get a glimpse into the real person.**"

As the 20-year veteran looks toward the future, he hopes the Air Force will expand the duties of the graphic artist. He'd even love to see artists being used more often in the deployed environment.

"The biggest hope for my career field is to mirror what the Army and Marine Corps used to do. They'd send combat artists downrange to photograph, sketch and illustrate our brothers and sisters in service of their nation. Then, the artists would return home and professionally paint and illustrate what they witnessed. All you have to do is walk down the Hall of Heroes in the Pentagon with all of its artwork to understand what I mean. It's very inspiring, and it's a lost art that we need to get back."

To see Air Force's winners in all categories of the Visual Information Awards program, turn to page 16. All DoD winners can be found online at: http://events.dinfos.osd.mil/viap.

WIRELESS TECHNOLOGY

AMC helps medics go Wi-Fi

By Karen Petitt
Managing Editor

SCOTT AIR FORCE BASE, Ill. — Doctors won't have to go to Starbucks for wireless Internet access anymore because now they can log on at their local base hospitals. They won't sit down with a cup of joe and read the latest news, but they will be able to move from room to room with a tablet PC as they input information directly into the hospital's electronic records system.

"Being able to have wireless access keeps the medical providers from having to log into a computer station multiple times or having to keep a notepad and transcribe their notes later into the records system," said Master Sgt. Devvy Mathews, a co-project coordinator with Air Mobility Command's Communications and Information Directorate. She helped develop a three-month pilot program to see how the medical community could use wireless technology to improve productivity and save money.

Going wireless isn't new to DoD's medical world, she said, as the technology has helped reduce the logistical need to stockpile large quantities of pharmaceutical, medical and surgical items. But, there hasn't been a solution here in place that allowed providers to access the service's health care records system, called the Composite Health Care System II, while doing rounds.

"The leadership at the 375th Medical Group came to us with ideas on how they could simplify their processes while keeping their patient's information private and protected. We were then charged to come up with a plan to see if it was obtainable," said Sergeant Mathews.

"And, based on the great feedback, our solution was a huge success. It will be a solution not only for Scott's medical facilities, but throughout AMC as well."

That solution involved setting up what's called a wireless mesh network. AMC's other co-project officer, Larry Friend, explains that a mesh network is a system of antennas and gateway points built to provide access not just from one building, but multiple buildings to the network server—without having to run dedicated cables to each computer station.

"What we're most familiar with are the cables that connect our home computers to the network. Each home is individually connected and with an antenna, can go wireless at that point. But, that would be impractical when trying to have a whole medical community connect with each other. What we used instead is one access point that is wired directly with the server, and then six other access points (or gateways) that hop between each other to gain access."

He said their solution not only links the main hospital, but also the dental clinic, flight surgeon's office and even its ambulances.

Capt. Ruben Nalda, a flight surgeon with the 375th MDG, took part in the pilot program and said he sees how it will save frustration with regards to being able to input the information on the fly. However, he hopes the final solution will include smaller handheld devices that will be less cumbersome and quicker network access.

Sergeant Mathews explained that during the pilot program, some outdated laptops were used to test the network, but that customers could arrange for specific equipment that will work for them with the speed needed.

Now that the solution is identified, the command is waiting for approval from a team of experts to give the OK for the solution to be used within AMC and to have it standardized throughout the command.

Once the contract for specific hardware and software is let, the mesh network will be installed permanently, and the medical teams can expect to see it here in about six months or sooner.

Mr. Friend said that "once we have this in place, we will also be able to add other access points in some of our base housing areas so our senior leadership and first responders can have Wi-Fi access.

"We'll save the government money because we won't have to run cable to all these areas. However, people in housing won't be able to just pull out their laptops and start surfing. Those who have the requirements for wireless access will have certain approved devices and certificates for access. It won't be the corner Starbucks."

BY INTEGRATING THE MEDIC AND TECHNOLOGY, DOCTORS WILL BE ABLE TO MAKE NOTES ON THE FLY AND ENTER A PATIENT'S INFORMATION INTO THE SYSTEM WITHOUT INTERRUPTING THE WORKFLOW. THIS MEANS BETTER PATIENT CARE AND ONE LESS TASK FOR PROVIDERS.

8 — 15
READABILITY BASED ON FLESH-KINCAID SCORES

FOG INDEX

FACTOID: In modern usage, wireless is a method of communication that uses low-powered radio waves to transmit data between devices. The term refers to communication without cables or cords, chiefly using radio frequency and infrared waves. It's predicted that wireless internet will be in use by 62 percent of all Americans by 2010.

JARGON WATCH

- **CHCSII:** Composite Health Care System II
- **LAN:** Local Area Network
- **AFHLTA:** Armed Forces Health Longitudinal Technology Application
- **Tablet PC:** A portable, personal computer with a keyboard plug-in option. The main method of input is handwriting recognition.

ALSO:

HEALTH RECORDS GO ELECTRONIC

An initiative to make an electronic healthcare record system by 2014 is becoming a reality. During the next four months, Wright-Patterson Medical Center in Ohio is scheduled to carry out the Armed Forces Health Longitudinal Technology Application, the new $1.2 billion Department of Defense electronic health record.

AFHLTA is the largest, most significant electronic health record system of its kind with the potential to serve more than nine million servicemembers, retirees and their families worldwide. Full deployment of the system in DoD's 800 clinics and 70 hospitals is expected to happen by December.

The vision is a continuously updated digital medical record from the point of injury or care on the battlefield to military clinics and hospitals in the United States, all completely transferable electronically to the Veterans Health Administration. Some benefits are that entries in a patient's record are legible and automatically logged with the date, time and name of the person who wrote the note. Special alerts notify the provider of any drug allergies, critical laboratory results or medication incompatibilities a person may have. Also, wellness reminders, specific to someone's age and gender, inform health staff when screening exams are due. *(Lisa M. Kliebert-Witt, 88th MDG PA)*

INNER WORKINGS

Senior Airman Shavonda Tariuwa, a diagnostic imaging technician from the 374th Medical Group, Yokota AB, Japan, uses a computer to reconstruct 3D images of a patient during CT scanner training. Computers and information technology are an integral part of the medical community and help to ensure a fit, medically ready fighting force.

Master Sgt. Val Gempis / AFNEWS

2005 MILITARY PHOTOGRAPHER OF THE YEAR

TURKISH SKY DANCER

ENGLAND'S TOUGH GUY CHALLENGE

IT'S A DUNK

MORE TOUGH GUYS

Tech. Sgt. Jeremy Lock
1st Combat Camera Squadron

For a second time, Tech. Sgt. Jeremy Lock is DoD's Military Photographer of the Year. His other MILPHOG honor was awarded in 2002. This eight-year veteran said he believes that photography is a bridge between cultures. He said his photography creates an opportunity for him to experience and live for a brief moment in a world other than his own.

"My images serve as windows of clarity, offering a brief look and understanding into the world of complex emotions, situations and people."

He got his start in photography working at Vandenberg AFB, Calif., as an aerial photographer. In 1998 he was selected for the year-long advanced photojournalism course at Syracuse University in New York, where he graduated at the top of his class. He was then assigned to the 1st Combat Camera Squadron, Charleston AFB, S.C., where he still travels around the world documenting the military at work and at play. His work has appeared in numerous major publications worldwide including "The New York Times" and "The LA Times." In 2002 he worked in collaboration with 125 of the world's leading photojournalists on a book entitled "A Day In The Life of the United States Armed Forces." His work also appears in the books, "NYC Life Going On" and "The War in Iraq." His latest project was working as a New York Life photographer on a documentary for PBS titled "Slavery and the Making of America."

He has his own Web site where people can view his recent work: www.jeremylockphotojournalist.com

View the entire list of winners at **events.dinfos.osd.mil/viap**

2005 OTHER HONOREES FOR PHOTOGRAPHY, GRAPHICS & VIDEO

MILPHOG OF THE YEAR

Tech. Sgt. Russell E. Cooley IV
1st Combat Camera Squadron
Second runner-up

Staff Sgt. Jacob N. Bailey
1st Combat Camera Squadron
Honorable Mention

Staff Sgt. Andrew N. Dunaway
1st Combat Camera Squadron
Honorable Mention

COMBAT DOCUMENTARY

Staff Sgt. Suzanne M. Day
1st Combat Camera Squadron
First Place

PICTURE STORY

Tech. Sgt. Michael Buytas Jr.
1st Combat Camera Squadron
Second Place

MILITARY VIDEOGRAPHER OF THE YEAR

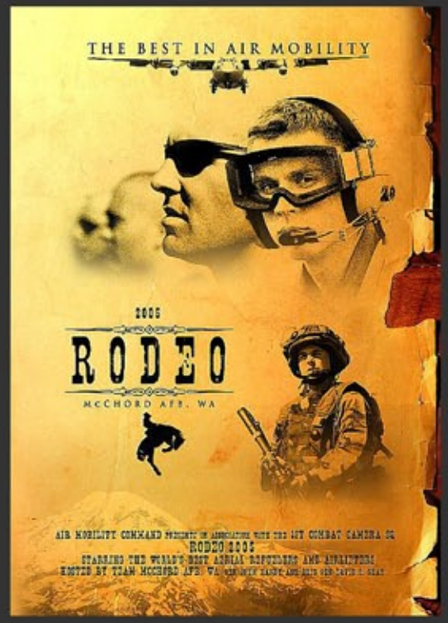
Senior Airman Anna M. Wiese
1st Combat Camera Squadron

Staff Sgt. Juan M. Femath
Air University, Maxwell AFB, Ala.
First runner-up

MILITARY GRAPHIC ARTIST OF THE YEAR

Tech. Sgt. Kurt H. Skoglund
Air National Guard
Second Place

LAYOUT & DESIGN



Staff Sgt. Juan Femath
Air University, Maxwell AFB, Ala.
First Place

ILLUSTRATION

Master Sgt. Cody Vance
Wilford Hall, Lackland AFB, Texas
First Place

PUBLICATION

Master Sgt. George Jumara
Ramstein AB, Germany
Second Place

FAMILY CONNECTIONS

Keeping everyone in touch is job No. 1 for comm troop

8 15

READABILITY EASE BASED ON FLESH-KINCAID SCORES

FOG INDEX

FREE MAIL: Deployed members can mail letters—up to 13 ounces—free, whether it's back home to the States or to another military postal center.

MORALE CALLS: Calls home are limited to two, 15-minute calls per week. Morale tents are also set up with computers for Internet and e-mail use to communicate with families at any time.

JARGON WATCH

JMMT: Joint Military Mail Terminal (Post Office)

DKET: Deployable Ku-Band Earth Terminal. A satellite system that links telephone and Internet signals in and out of Sather AB, Iraq.

NCC: Network Control Center

By Master Sgt. Will Ackerman
447th Air Expeditionary Group Public Affairs

SATHER AIR BASE, Iraq — Keeping families in touch, whether it's through the mail, telephone or e-mail, is the not-so-easy job of the 447th Expeditionary Communications Squadron here.

MAIL CALL

For instance, the postal staff works with the Army at the Joint Military Mail Terminal nearby to process mail for more than 108,000 troops deployed to the Baghdad area. Two people process an average of 26,000 pounds of outgoing and 50,000 pounds of inbound mail daily. During January's personnel rotation, the team processed more than 2 million pounds of mail.

"The Internet is great. But it's not a crayon or a stick drawing that a 4-year-old did in kindergarten," said Master Sgt. Kirk Baldwin, the post office superintendent. "(Mail) is a real piece of my life I can hold."

PHONE CALLS

For those who say there's nothing like hearing someone's voice, there's Staff Sgt. Tavares Mays, a telephone voice maintenance technician, and the staff who maintain the telephone hardware and wiring inside buildings.

Sergeant Mays said a problem they have is when people break telephone wires or turn off ringers. His team also acts as a base operator, since there isn't one there.

"We get calls all the time from people asking for a phone number. We will give the customer the number out of common courtesy, but you can find it on our intranet site," he said.

MAINFRAMES

Also keeping the lines open is Neal Creasy, a government contractor who programs and maintains the telephone main frame system here. Mr. Creasy, who has more than 40 years as a telephone programmer, said the telephone switch here has multiple redundancy capability and battery back-up for power.

"When you dial somebody's number from here, you know you will get through. This is just as modern as anything in the states," he said.

NETWORK CONNECTIVITY

With the morale call policy restricting usage to two 15-minute calls a week, people can communicate daily through e-mail. Although not at a broadband speed, the e-mail and Internet here are vital links. Keeping the servers operating is the network control center's job. The NCC creates user e-mail accounts, ensures network connectivity and troubleshoots problems people have with their accounts or their desktop computers.

"Network connectivity is our No. 1 challenge," said Tech. Sgt. Alvin Mills, NCO in charge. "The signal can freeze if a lot of people try to access at the same time."

Additionally, he said many users lock themselves out of their e-mail accounts when they attempt to log-in more than three times. "People forget their passwords."

MAPPING THE WIRING

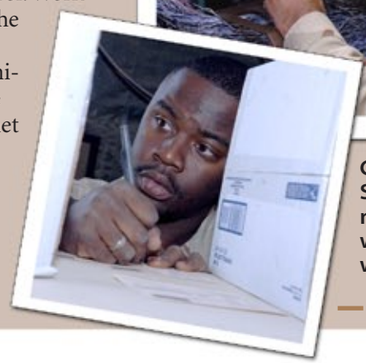
With any communications systems the quality is only as good as the infrastructure. Working with their Army counterparts, the cable maintenance technicians are responsible for more than 500 miles of copper strand wiring for telephones and 250 miles of twin-fiber wiring for the Internet on the Victory Base Complex. Not knowing where the wiring was placed is their biggest challenge when a fault occurs.

"Part of what we are doing now is locating cables and mapping it," said Tech. Sgt. Gerald Boulay, cable maintenance NCO in charge.

SATELLITE CAPABILITY

A hidden asset in the communications link is the team working in Technical Control. Working with a contractor, they manage the incoming and outgoing signal from the Deployable Ku-Band Earth Terminal. The DKET satellite system is the conduit for the telephone and Internet signals in and out of Sather AB.

Although the communications team works behind the scenes, they know their reach is felt and appreciated by everyone here to keep morale high.



Photos by Master Sgt. Will Ackerman / 447th AEG PA

Checking the telephone switch is Staff Sgt. Tavares Mays and (left) Senior Airman Douglas Williams who's working postal operations. Both are with the 447th ECS.

What's really on that gold chip?

By Raymond Brant
Air Force Communications Agency

SCOTT AIR FORCE BASE, Ill. – Rumors and urban legends continue to circulate that the "gold chip" on the Common Access Card contains people's DNA, family member information or even a complete copy of a worker's official government records.

"This simply is not the case. Only those elements required by law and the Geneva Accords of 1949 are on the card," said Maj. Martin Solis, Chief, Identity Management Branch at the Air Force Communications Agency here. "The CAC, often referred to as a Smart Card, is DoD's official Geneva Convention ID card and every effort has been made to minimize the amount of information about someone that is actually on the card."

A CAC is a credit card size ID card with an embedded Integrated Circuit Chip. The gold chip, or ICC, is where the CAC gets its Smart Card moniker. The ICC stores three types of data: personal information, applications, and certificates used as electronic identifiers and encrypting sensitive but unclassified information.

The personal information on the CAC is essentially the same information that was contained on previous ID cards such as name, rank, date of birth, etc. (either printed or contained within bar codes). The only additions are gender, meal entitlement code and organ donor election (military only). Items removed from the CAC that were on previous ID cards are height, weight, hair color, eye color and signature.

Applications on the ICC restrict access and protect information stored on the chip. These applications are specialized and are approved by the National Security Agency to protect the integrity of the card. Other applications may be added to the chip for Air Force specific or local use, such as an electronic purse used to purchase uniform items or pay for meals at the base dining facility.

"As we progress within the Information Warfare battlefield, the Department of Defense will continue to increase security and protect personal information both on the card, and on the network," said Major Solis.

8 15
READABILITY EASE BASED ON FLESH-KINCAID SCORES

FOG INDEX

Relax, your entire life isn't on the card. Only the codes for your digital signature and basic identification requirements are on the chip.

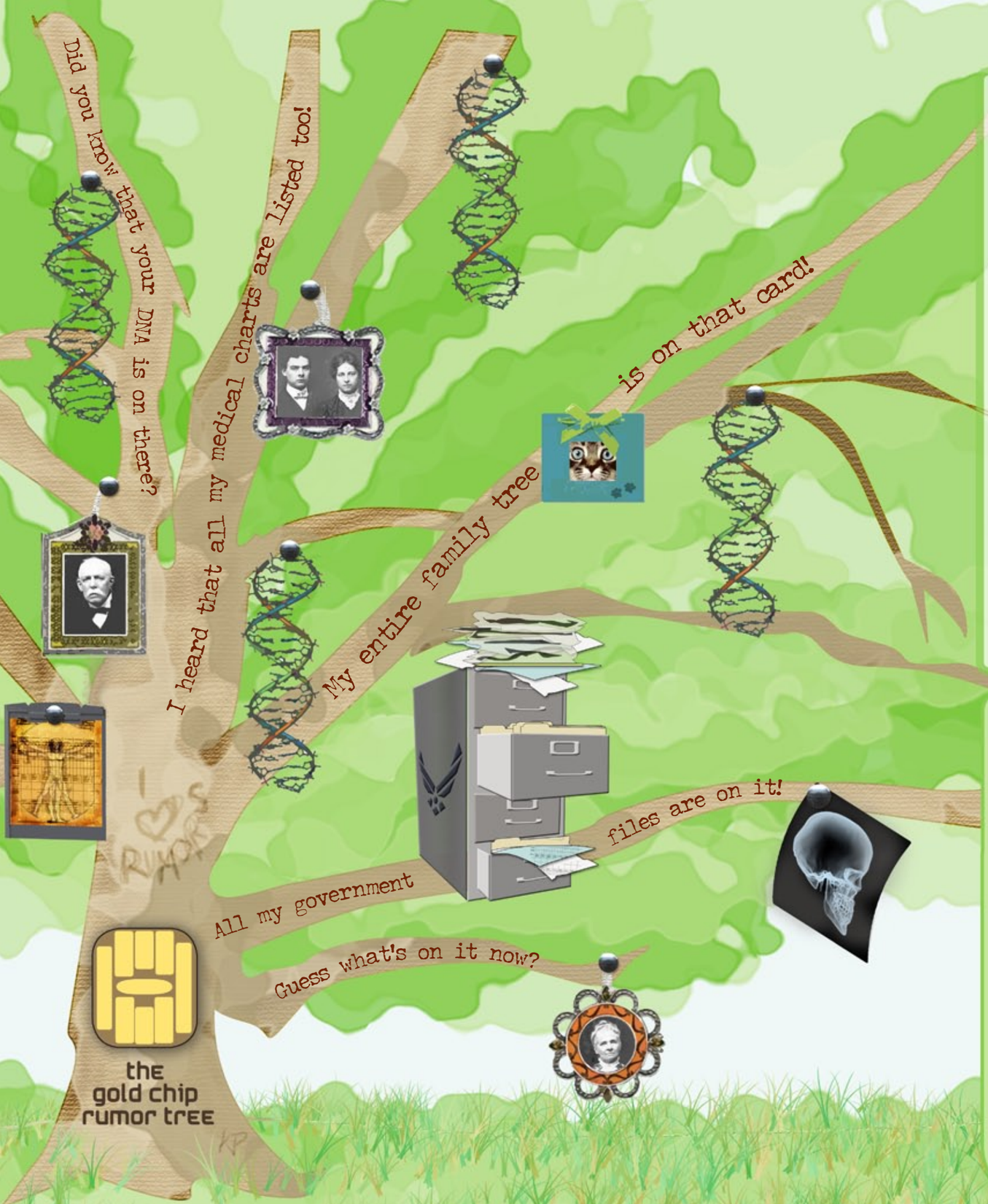
JARGON WATCH

- **CAC:** Common Access Card, or "Smart Card"
- **ICC:** Integrated Circuit Chip
- **NIPRNET:** Non-classified Internet Protocol Router Network

Illustration by Karen Petitt

Integrated Circuit Chip details

One major function of the ICC is to store a person's electronic identity in the form of certificates and encryption keys. Currently, there are three certificates on the card. **DIGITAL SIGNATURE:** This certificate is used to "digitally sign" documents and e-mail. A digitally signed document is often considered more authentic than a document signed with ink. Ink signatures can be forged and, even with expert analysis, you are never 100 percent sure the signature is authentic. On the other hand, electronic signatures read the entire document and create a "signature" based upon both the contents and the sender's digital signature certificate. Digital signatures are legally valid to authenticate a document. **ENCRYPTION:** As the name implies, encryption certificates are used to electronically protect e-mail from being intercepted and read by unauthorized individuals. For Privacy Information, Official Use Only and other sensitive but unclassified data, encryption will protect it from the wandering eye of those who "sniff" the network for such information. Even with digital encryption, classified information is not authorized to be sent on the NIPRNET. **IDENTITY:** The Identity certificate is used to grant access to protected Web sites such as the Air Force Portal and Defense Travel System. In effect, this certificate replaces the "user name." This mechanism prevents unauthorized use of the card— a security precaution that effectively renders a lost card worthless to an adversary who might stumble upon one. Hackers generally attack remotely, hitting the system with thousands of guesses at a time. This certificate only allows three guesses. Also, accounts will be blocked throughout DoD networks when cardholders report the card as lost or stolen.



HALL OF FAME

Class of 2006

AIR FORCE COMMUNICATIONS AND INFORMATION

—compiled by Gerald Sonnenberg, AFCA PA

General Ankenbrandt graduated from the U.S. Military Academy at West Point in 1926, and was commissioned a second lieutenant in the Signal Corps.

At Wright Field, Ohio, from 1936 to 1938, he served as the Air Navigations project officer in Aircraft Radio Labs. His work involved creation and testing of instrument landing systems, enabling pilots to land in blind flying conditions.

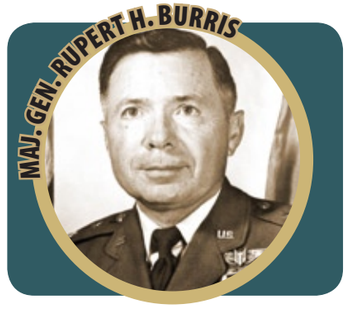
He and his team also developed low frequency emergency transportable beacons, and truck-mounted mobile systems that enabled pilots to identify where they were at critical points in their flight paths.

His research also enabled Army aircraft to communicate with Navy ships and submarines.

As Director of Communications of the Army Air Forces Pacific, he organized the communications channel between Pacific aircraft to the Pentagon and Gen. Hap Arnold's conference room. It enabled General Arnold to receive a "bomb's away" message less than 18 minutes from the time the first bomb was dropped during the raid on Tokyo.

He retired Nov. 30, 1956, and died Dec. 1, 1976.

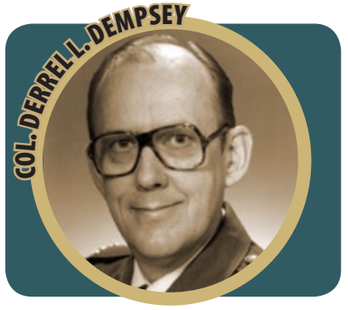
General Bestic received an appointment to West Point in 1935, and for the first two years of World War II, the young signal officer was assigned to the Northwest Air District and 2nd Air Force until he became a member of the 5th Air Force in the Pacific theater in 1943. He moved with the 5th as U.S. and allied forces took New Guinea, the Philippines, Okinawa, and then Japan. After the war, General Bestic was at Air Force headquarters as chief of the communications division before becoming deputy director for communications-electronics, Joint Chiefs of Staff. In 1950, General Bestic began a seven-year tour as chief of Strategic Air Command's Communications-Electronics Division. He directed development of SAC's worldwide communications network. He was also the first to place computers in the SAC command post for command and control. The last 10 years of his Air Force career were as director of the National Military Command System, Defense Communications Agency. He played a major role in setting up the modern NMCS facility and its data processing and communications networks. He died in December 1969.



General Burris enlisted in the Army Air Corps in 1943. He served as a B-17 gunner/armorer, completing 30 combat missions over Germany and France before he turned 20. He was discharged in December 1946, but reenlisted three months later. He received his commission in 1948 and began his career in communications.

General Burris served overseas in 1954 as ground electronics officer at Headquarters Far East Air Forces in Tokyo. By 1964, America's involvement in Vietnam was growing and General Burris was transferred there in 1967 as director of communications-electronics for the U.S. Air Force Advisory Group of Military Assistance Command Vietnam. He served at Headquarters Pacific Communications Area in Hawaii, and in Colorado before becoming commander of Air Force Communications Service's Southern Communications Area in Oklahoma. In 1975, he became AFCS' vice commander and then commander—the only non-rated officer to head an Air Force major command.

He retired in October 1977 and was the first to receive the AFCS Order of the Sword.



Colonel Dempsey is a "living legend" in the air traffic control realm. His career began with his commissioning and training as an undergraduate pilot in 1954, and accumulated 30 years of aviation experience as chief of air traffic control, flight inspection pilot, and air traffic control staff officer at various assignments.

During Vietnam, he logged 1,000 combat-coded flying hours in the C-140A Jetstar. He would eventually earn pilot qualifications in 10 different Air Force aircraft.

As chief of air traffic control and landing systems at AFCS from 1977 to 1979, he defended AF budgets of more than $200 million to modernize tactical and fixed air traffic control and landing systems. In his final assignment as deputy chief of staff for Air Force Communications Command's Air Traffic Services, he deployed more than 642 combat-ready Air Force air traffic controllers to 75 Federal Aviation Administration facilities during the 1981 air traffic controller strike.

He retired in 1984. For the next 10 years, he continued to work for the modernization of ATC systems as a contractor in civilian companies.

Chief Bethea is the second enlisted person to be inducted. He entered the Air Force in 1951 and after basic training, he attended Teletype and Crypto Maintenance School at F.E. Warren AFB, Wyo. After a tour in Europe, he was assigned to the 2049th Communications Group, McClellan AFB, Calif., and worked on the first online link encryption device. In 1958 he became one of the first secure voice technicians assigned to the Pentagon and was selected to establish the first Air Force Communications/Information Maintenance work center supporting the National Military Command Center.

In 1968, he was sent to Korea to install a secure voice network at all bases there after the USS Pueblo was attacked by North Korean forces. He and his team had the net up and running in 60 days. He spent a year in Vietnam serving as superintendent of maintenance, disaster preparedness, and crypto maintenance.

Following retirement in 1978, he helped the Department of Energy implement national policy for computer security related programs at nuclear weapons complex production plants and laboratories.

About

The Hall of Fame was established in 1999 to recognize the achievements of past military leaders and civil servants whose solutions to problems, innovation and creativity, and their application of new technologies has paved the way for the communications, command and control, and intelligence capabilities the Air Force now enjoys.

The Air Force Communications and Information Hall of Fame site is maintained by the Air Force Communications Agency, Scott AFB. It was officially dedicated March 2, 2001.

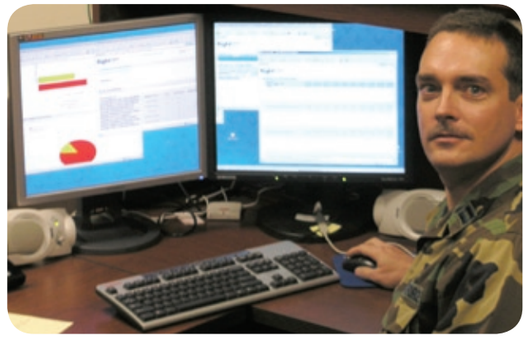
Nominations

Candidates for the Hall of Fame must have served in a branch of the federal government and have made significant contributions to the Army Air Forces or Air Force C4I or air traffic services disciplines. Candidates must have concluded their federal service at least 5 years prior to nomination. Nominating bodies and individuals should consider the following factors: unique/unprecedented contributions to the C4I/air traffic services disciplines and capabilities they provide warfighters, exceptional vision that created a record of accomplishment well beyond the norm, and sustained excellence in leadership resulting in unusually memorable legacies of performance.

Web site

public.afca.af.mil/hall_of_fame.htm.

NEWS BRIEFS



SURVEY ANALYSIS

333rd TRAINING SQUADRON TAKES STUDENT FEEDBACK TO THE WEB

THE 333RD TRAINING SQUADRON INTRODUCED automated Web-based student feedback surveys to collect post-graduation feedback for the communications and information officer supplemental courses (e.g., Executive Officer Course, Network Training Course, Enterprise Network Operations). Post-graduation surveys haven't been administered before, but now the technology is such that it makes it much easier to collect metrics that will assess the effectiveness of the training. The 333rd TRS uses "RightNow," a metric-collection/survey tool by the Air Force Institute for Advanced Distributed Learning. Because this tool is provided for government use, units incur no costs. The tool is provided online, so instructors avoid the time-consuming paperwork associated with analyzing survey data. Also, keeping track of completed surveys for historical reference is now easier thanks to the power of this IT tool. RightNow gives the unit survey monitor the ability to internally establish specific start and end dates for survey completion, which will lighten their workload. By sending out the surveys several months after class completion, the staff is better able to learn the mid-term effects of instruction.

"All of our existing survey processes are geared toward initial skills training," said Lt. Col. Randy Coats, 333rd TRS commander. "The lack of effective surveys for supplemental training is like a gaping chest wound in our supplemental training process. We have had no way to assess whether or not what we teach actually applies to the students' jobs. This tool gives our primary customers—students and their supervisors—a way to give us that qualitative feedback." *(Capt. Stephen Song , 333rd TRS)*

- The mission of the 333rd Training Squadron at Keesler AFB is to teach communications and information warriors to support the warfighter.
- Supplemental courses available to C&I officers and civilian equivalents can be found at: https://wwwmil.keesler.af.mil/333trs/index.htm.
- For more information on the RightNow Survey process, call Capt. Stephen Song at DSN 597-4802.

REALIGNMENT

INFORMATION OPERATIONS GROUP RESTRUCTURES FOR EFFECTIVENESS

THE 690TH INFORMATION Operations Group at the Security Hill Annex, Lackland AFB, Texas, recently underwent a realignment to improve its effectiveness as the worldwide communications provider for information operations.

"To better fulfill our role, we realigned mission support and operational functions across three squadrons and my staff to optimize our communication and logistics support capability," explained Col. Tim Lynn, 690th IOG commander.

The realignment of functions and personnel occurred in three phases: realigning and streamlining overlapping functions; processing the formal organizational change request; and formally transferring personnel and responsibilities within the three squadrons.

The most significant overlapping functions were project management, network planning, and engineering and installation.

The goal of consolidating these functions within single squadrons was to create better unity of command, which in turn will enhance support levels to IOG customers.

The 690th IOG is the parent command to the 67th Information Operations Wing, whose 41 units around the globe conduct information operations in peace and war. *(David Hill, 690th IOG)*

MAINTAINING THE FEED

Staff Sgt. Melissa Koskovich / USCENTAF PA

Staff Sgt. Neil Holdren and Capt. Kevin Mahar accomplish a periodic maintenance inspection on an antenna feed. Sergeant Holdren is from Hill AFB, Utah, and Captain Mahar is from Peterson AFB, Colo. They're deployed to the 379th Air Expeditionary Wing in Qatar, supporting Operation Iraqi Freedom.

PRIORITIES

AF WANTS MORE UAV DEVELOPMENT

Unmanned aerial vehicles are transforming the way the Air Force does business, and the service is committed to developing more of them. The MQ-1 Predator A is leading the way in reconnaissance and imagery, but the Air Force uses MQ-9 Predator B, as an aircraft billed as a "hunter-killer." It can deploy weapons such as the joint direct attack munition. It will also have the capability to self-designate for Hellfire missiles and laser-guided bombs. The UAVs are at different stages of development and have different missions, but the Air Force is committed to fielding more MQ-9s. *(AFPN)*

TECHNOLOGY

RADIO, INTERNET COMBINE TO AVOID 'DEAD AIR'

TO ENSURE AIRMEN KEYING in for radio checks don't get that ominous "dead air," the Air Force is using a new communication system, known as the "Radio over Internet Protocol Routed network," or RIPRNET.

"With the RIPRNET we have tied convoy radios in with Internet-based technology to extend their range," said Col. Greg Touhill, U.S. Central Command Air Forces-Forward communications director at the Combined Air Operations Center. "This system provides more reliable and robust communications for our Soldiers, Sailors, Airmen and Marines who are out on the roads of Iraq."

Better communications is not the only benefit of the RIPRNET. Other applications include use for air defense and command and control of close-air-support missions.

In addition, it frees resources previously tied up supplementing radio coverage such as using the Joint Surveillance and Target Attack Radar System aircraft. "But, JSTARs can't be everywhere, and other factors could limit its availability to conduct radio relay missions," said the colonel.

Full installation of the RIPRNET, scheduled for completion this year, will allow approximately 200 Soldiers currently manning radio relay stations, to return behind protected walls, and it will allow JSTARS aircraft to concentrate on its primary mission: using moving target indicator radar to track and manage the ground battlespace.

"We've already done testing in one part of Iraq with great results," he said. "The field units tell us it's an awesome capability that gives them reliable radio coverage 24/7. They can't get it fast enough."

Capt. Rob Ault, chief engineer for the installation of the project, added, "The troops who run these missions deserve someone on the other end of the mic when they key it up." *(Staff Sgt. Melissa Koskovich, USCENTAF PA)*

« Tech. Sgt. Eric Yingling works the RIPRNETconsole to monitor convoy operations in Iraq. He's a communications engineer deployed from Shriever AFB, Colo., to Southwest Asia.

RIPRNET
RADIO OVER INTERNET PROTOCOL ROUTED NETWORK

TECHNOLOGY

GPS HELPS WARFIGHTERS TRACK 'BAD GUYS'

WHEN U.S. FORCES GET TO IRAQ and Afghanistan, they're finding dry, featureless terrain with no real landmarks or points of reference to use. In the past, maps and a compass were the tools used by service-members to track down the enemy and find their exact location in theater.

That's no longer the case. Warfighters are now turning to a 12-channel device known as the Defense Advanced Global Positioning System Receiver, or DAGR, to get vital information. A screen about the size of a square yellow sticky note transmits invaluable maps, satellite sky view information, and situational awareness so that fielded forces can determine their position and then go back to a map to plot where the enemy sits. All units that are currently going over to Iraq are equipped with DAGR.

Since 2004, more than 33,000 DAGRs have been fielded to the Air Force, Army, U.S. Marine Corps, Navy and foreign military forces.

The Air Force has tested 941 units while the Army has fielded 31,000 devices. The DAGR weighs less than a pound and is small enough to fit easily into the palm of the hand, but it packs a huge punch. Forces can stand in a desolate location and receive real-time position, velocity, navigation and timing info.

The DAGR, which costs $1,832 per unit, is also less vulnerable to enemy actions. Although it's primarily for land users, DAGR can also be used in water-borne vehicles and can be mounted or hand held. Plans call for buying more than 34,000 DAGRs and developing the next line of receiver equipment. *(Maj. April Jackson, Space and Missile Systems Center PA)*

KUDOS

NORTHCOM FACILITY CULMINATES 7 YEARS PLANNING, EFFORT

INTEGRATING COMmunications capabilities on the front end of a facility construction project is a concept that requires a diverse set of skills—program and budget management; voice, data and cable expertise; contract management; and understanding of the construction process.

And the team at U.S. Northern Command at Peterson AFB, Colo., came together as early as 1998 to work with an Architect-Engineering firm to develop the requirements.

USNORTHCOM's move into a new addition this spring culminates seven years of design, planning and construction activity at a construction cost of $70 million with more than $35 million in cutting-edge voice, data and presentation capabilities supporting NORTHCOM's Homeland Defense mission.

The facility which, opened in February 2003, has more than 400 miles of fiber and copper that connects the space complex with other key base nodes. It also has more than $25 million in hardware, including new red/black voice systems, multiple local area networks and Video Teleconferencing services for 15 conference rooms. Additionally, teams provided connectivity to the NORAD mission at Cheyenne Mountain. *(John P. Reilly, AFSPC)*

KUDOS

SHREDDER QUEEN

SHE'S CALLED THE "shredder queen." Staff Sgt. Cassandra Ali, 379th Expeditionary Communications Squadron base records manager, keeps track of Airmen who sign up to shred paper. In just two weeks, she's moved 57 20-pound bags of pulverized paper from the base's newest operational security tool, a multi-purpose high-security, high-volume industrial shredder. Unlike most unclassified shredders at Al Udeid AB, Qatar, this high-security pulverizer grates paper to an extremely fine consistency, with the final product looking and feeling like dryer lint with the consistency of fine wool.

"There's no hope for anyone to piece together anything that goes through this machine," Sergeant Ali said. "It's simply impossible. You can shred up to 50 sheets of paper at a time in this machine. And that saves people a lot of time."

The shredder also destroys floppy disks, CDs and DVDs. All of the paper and media waste goes through a foot-wide opening into the machine, which is about the size of a phone booth. On busy days, Sergeant Ali changes the bag up to 10 times. *(Maj. Ann P. Knabe, 379th AEW PA)*

JUMP START COMMUNICATIONS EXERCISE

Photos by Airman 1st Class Bradley Lail / 6th CS

Staff Sgt. Joel Hoppe and Tech. Sgt. Eric Fricke drain water after heavy rainstorms flooded the location where the 2006 Jump Start communications exercise took place during April at Homestead ARB, Fla. Jump Start was designed to familiarize troops from Reserve, Guard, and active military units with communications equipment they wouldn't normally use. All the Airmen pictured are either with McGuire AFB, N.J., or March ARB, Calif.

Staff Sgt. Chad Chisholm / 6th CS

▲ Tech. Sgt. Vincent Majors and Staff Sgt. Duy Vu work out a problem while setting up a basic access module with a voice over internet protocol. ▸ Senior Airman Michael Mikkelson programs a USC-60 for long haul communications to a satellite.

Staff Sgt. Davion Roberts, a satellite communications technician, tears down a k-band feed to avoid water in the wave guide.

TECHNO GIZMO

Predicting atmospheric disturbances helps keep military satellites on target

What's the problem?

During specific times of the year over the earth's equatorial region, turbulence in the ionosphere, known as scintillation, causes extended degradation for DoD navigation and communication satellites. But, a sensor package installed at 14 locations worldwide has helped reduce the impact of this naturally-occurring disruption.

What's the solution?

Developed by the Air Force Research Laboratory's Space Vehicles Directorate, at Kirtland AFB, N.M., the Scintillation Network Decision Aid, or SCINDA, receives data on disturbances in the upper atmosphere, located 60 to 600 miles above the planet, from global positioning system satellites and geostationary radio beacons to predict when and where potential communication interruptions will occur.

How does it work?

Evolving from a research project on the formation of low-latitude ionospheric disturbances started in 1994, the SCINDA provides real-time information, updated every 30 minutes, to the Air Force Weather Agency, Offutt AFB, Neb., and the Communication/Navigation Outage Forecasting System Data Center, Hanscom AFB, Mass., for predicting satellite transmission disruptions and seasonal behavior of the cosmic storms.

What areas are affected?

From September through March, low latitude regions in the American sector can experience the intense effects of scintillation, which normally transpire at night within 20 degrees of the earth's magnetic equator. This area comprises more than one-third of the world's surface. Mid-latitude regions, such as the continental United States, can also be affected by scintillation during magnetic storm events.

Why Christmas Island?

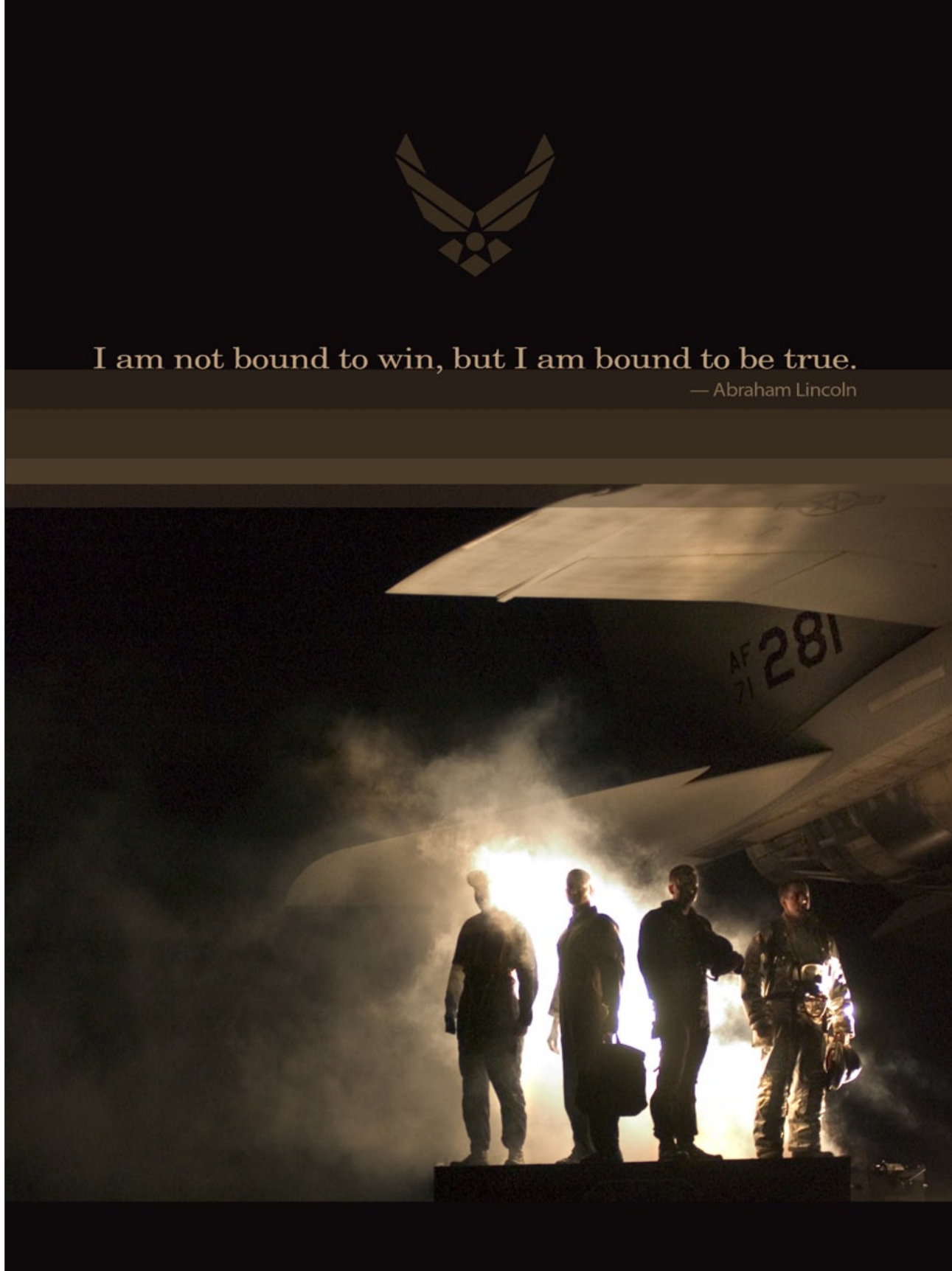
Although the SCINDA has become operational in numerous locations across the globe, coverage gaps have existed from Hawaii westward through Southeast Asia and extending almost to the Middle East. The sensor site on Kiritimati Island (also referred to as Christmas Island), located 1,200 miles south of Hawaii, removes a significant obstacle to scintillation forecasting because the equator crosses near this South Pacific land mass.

What's ahead?

In the next two years, an additional 10 to 12 research posts will become operational. By the end of 2006, approximately six facilities will open on the African continent, and another three SCINDA data locations will commence in India. These sites are all funded by the Air Force Research Laboratory. The goal is to have the stations in place to support users during the next solar maximum —several years of increased space weather activity including scintillation, solar flares, and coronal mass ejections, which begins in 2009.

SCINTILLATION NETWORK DECISION AIDS SEEN HERE ON CHRISTMAS ISLAND

Source: Michael P. Keliman, Air Force Research Laboratory



intercom

Journal of the Air Force ★ May 2006

PAGING DR. COMM

★ BALAD'S EXTREME HOSPITAL MAKEOVER ★

ILLUSTRATING FOR THE CURE ★ ARTIST RECOGNIZED AT DOD LEVEL

★ AMC HELPS MEDICS GO WI-FI ★